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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,020	12/15/2004	Yutaka Yoshida	263148US90PCT	4905

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EXAMINER	
BALDWIN, GORDON	

ART UNIT	PAPER NUMBER
1775	

NOTIFICATION DATE	DELIVERY MODE
09/07/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/518,020	Applicant(s) YOSHIDA, YUTAKA	
	Examiner Gordon R. Baldwin	Art Unit 1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 9, 19 and 21 are objected to because of the following informalities: In claims 9 and 21 the preamble to these claims, there is a misspelling of the word "body". In claim 19, the use of partition wall is considered to be incorrect since there is a plurality of partition walls in the honeycomb structure. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Higuchi (U.S. Pat. No. 4,293,357) and further in view of Gadkaree U.S. Pub. No. 2002/0011683.

Consider claims 7-11 and 13-16 and 18, Higuchi teaches a honeycomb body made of a ceramic material (Silicon carbide) where the honeycomb structure (which is considered to be made up of a plurality of prismatic ceramic members because they are in a prismatic shape) has a plurality of through-holes side-by-side in a longitudinal direction through partition walls and sealing either on of the end portions of the through holes. (Fig. 3-5, Col. 1 lines 22-63, Col. 2 lines 22-40 and Col. 3 lines 17-32) As shown in figures 3-5, the through-holes are plugged at one end portion or the other end portion

Art Unit: 1775

in a systematic fashion so that a through-holes is plugged in the upper portion of the through hole is placed next to a through-hole that is plugged in a lower portion of the honeycomb structure.

Huguchi does not teach the use of amorphous silicon in the forming of a ceramic block. However, Gadkaree teaches that it is known to construct a ceramic honeycomb structure with amorphous silicon as well as a silicon carbide. (Para. 26, 30 and the abstract) It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the honeycomb structure of Huguchi with use of an amorphous silicon of Gadkaree since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious engineering choice. In re Leshin, 125 USPQ 416. While the teaching of Gadkaree may teach that the use of amorphous silicon may be undesirable, it definitely states that amorphous silicon is a known material to use in the construction of a honeycomb structure.

In claim 8 where, "the ceramic block is made by bonding a plurality of prismatic ceramic members", the "bonding" portion is considered to be a product-by-process limitation and even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.", (In re Thorpe, 227 USPQ 964,966). Once the Examiner provides a rationale tending to show

Art Unit: 1775

that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product (*In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113).

In claims 10 and 15, the limitation where the porous ceramic is "formed by bonding ceramic particles through amorphous silicon" is considered to be a product-by-process limitation and even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.", (*In re Thorpe*, 227 USPQ 964,966). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product (*In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113).

As for claim 18, figures 4 and 5 of Higuchi teach the plugging of the adjacent through holes at opposite ends from each other.

Consider claims 12 and 17, Gadkaree does not specifically teach that the amorphous silicon has a half-width value of Si peak (2θ =about 28°) of an X-ray

Art Unit: 1775

diffraction of not less than 1.0°. The limitation described in claim 12 and 17 is a mere physical characteristic of amorphous silicon, the amorphous silicon taught by Gadkaree is considered to have the same physical limitations.

Claims 19-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harada (U.S. Pat. No. 6,797,666) and further in view of Gadkaree U.S. Pub. No. 2002/0011683.

Consider claims 19-23 and 25, Harada teaches a honeycomb filter composed mainly of silicon carbide or metallic silicon and silicon carbide where the honeycomb is made up of segments arranged (in a side-by-side relationship) that are bonded to each other with a plurality of through-holes that are plugged alternately (as shown in figure 1). (Abstract)

However, Harada does not teach the specific use of “amorphous” silicon in the forming of a ceramic block. However, Gadkaree teaches that it is known to construct a ceramic honeycomb structure with amorphous silicon as well as a silicon carbide.

(Para. 26, 30 and the abstract) It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine the silicon carbide and metallic silicon honeycomb structure of Harada with the amorphous silicon and silicon carbide honeycomb structure of Gadkaree since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious engineering choice. In re Leshin, 125 USPQ 416. While the teaching of Gadkaree may teach that the use of amorphous silicon may be

undesirable, it definitely states that amorphous silicon is a known material to use in the construction of a honeycomb structure.

In claim 22, the limitation where the porous ceramic is "formed by bonding ceramic particles through amorphous silicon" is considered to be a product-by-process limitation and even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.", (In re Thorpe, 227 USPQ 964,966). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product (*In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113).

Consider claim 24, Gadkaree does not specifically teach that the amorphous silicon has a half-width value of Si peak (2θ =about 28°) of an X-ray diffraction of not less than 1.0° . The limitation described in claim 24 is a mere physical characteristic of amorphous silicon, the amorphous silicon taught by Gadkaree is considered to have the same physical limitations.

Response to Arguments

Applicant's arguments, filed 6/12/2007, with respect to 35 U.S.C. 103(a) rejection with Higuchi and Yoshinori have been fully considered and are persuasive. The 35 U.S.C. 103(a) rejection with Higuchi and Yoshinori of claims 7-12 has been withdrawn.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon R. Baldwin whose telephone number is (571)272-5166. The examiner can normally be reached on M-F 7:45-5:15.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GRB


JENNIFER C. MCNEIL
SUPERVISORY PATENT EXAMINER
9/3/7